## Space Weather Forecast

Issued on Wednesday, 05 April 2023 at 00:17 Local

**This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales**

---

**Space Weather Forecast Headline: Slight chance of Minor Geomagnetic Storms at first, soon declining. Slight chance of Moderate class flares throughout.**

**Analysis of Space Weather Activity over past 24 hours**

**Solar Activity:** Solar activity has been Low with no significant flare activity. There are currently four active regions on the visible disc. A region in the southwest quadrant is the most prominent on the visible disc, having recently shown growth in its intermediate spots and briefly developing some magnetic complexity in this area. The three remaining regions are both small and simple. No Earth-directed Coronal Mass Ejections (CMEs) have been observed in available imagery.

**Solar Wind / Geomagnetic Activity:** The solar wind appears to be under the influence of a coronal hole fast wind. Wind speed has been slightly elevated or elevated, varying between 480-550 km/s. Magnetic field strength has been weak, with the important north-south component also varying weakly. Geomagnetic activity was Quiet to Active (Kp 1-4).

**Energetic Particles / Solar Radiation:** High energy protons have been at background levels, with no solar radiation storms observed.

**Four-Day Space Weather Forecast Summary**

**Solar Activity:** Solar activity is forecast to be mainly Low, with a slight chance of Moderate activity.

**Solar Wind / Geomagnetic Activity:** No Earth directed CMEs are currently expected. Solar wind speeds are at slightly elevated or elevated levels, due to a coronal hole fast wind. A slow decline in wind speeds through Days 1 and 2 (05-06 Apr) to near background levels seems most likely.

Geomagnetic activity is forecast to be Quiet to Active on Day 1, with a slight chance of isolated G1/Minor Storm intervals. Activity is expected to gradually decline however, to become mostly Quiet by Day 3 (07 Apr).

**Energetic Particles / Solar Radiation:** Solar radiation storms are unlikely through this period, although there is a slight chance of reaching the Minor Storm level should a more significant flare occur.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2023. All Rights Reserved.

Met Office

# Space Weather Forecast

**Geomagnetic Storms:**

| Geo-Magnetic Storm Probability (Exceedance) | Level | Past 24 Hours (Yes/No) | Day 1 (00-24 UTC) (%) | Day 2 (00-24 UTC) (%) | Day 3 (00-24 UTC) (%) | Day 4 (00-24 UTC) (%) |
|---|---|---|---|---|---|---|
| Minor or Moderate | G1 to G2 | No | 15 | 5 | 1 | 1 |
| Strong | G3 | No | 1 | 1 | 1 | 1 |
| Severe | G4 | No | 1 | 1 | 1 | 1 |
| Extreme | G5 | No | 1 | 1 | 1 | 1 |

**Radio Blackouts - X Ray Flares:**

| X Ray Flares Probability | Level | Past 24 Hours (Yes/No) | Day 1 (00-24 UTC) (%) | Day 2 (00-24 UTC) (%) | Day 3 (00-24 UTC) (%) | Day 4 (00-24 UTC) (%) |
|---|---|---|---|---|---|---|
| Active | R1-R2 M Class | No | 10 | 10 | 10 | 10 |
| Very Active | R3 to R5 X | No | 1 | 1 | 1 | 1 |

**Solar Radiation Storms - (High Energy Protons):**

| Radiation Storms Probability (Exceedance) | Level ($cm^{-2}$ $sr^{-1}$ $s^{-1}$) | Past 24 Hours (Yes/No) | Day 1 (00-24 UTC) (%) | Day 2 (00-24 UTC) (%) | Day 3 (00-24 UTC) (%) | Day 4 (00-24 UTC) (%) |
|---|---|---|---|---|---|---|
| Active | ≥ S1 | No | 3 | 3 | 3 | 3 |
| Very Active | ≥ S3 * | No | 1 | 1 | 1 | 1 |

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2023. All Rights Reserved.